

PHYSIOLOGY v. METAPHYSICS IN RELATION TO MIND.

"The laboratory is the forecourt of the temple of Philosophy; and whoso has not offered sacrifices and undergone purification there, has little chance of admission into the sanctuary."—HUXLEY, "Life of Hume."

"It was the glory of Hippocrates to have brought Philosophy into Medicine, and Medicine into Philosophy."—AUCTOR (?)

"Longings sublime and aspirations high,
Which some are born with, but the most part learn,
To plague themselves withal, they know not why."

BYRON, Don Juan, c. i. st. 93.

"Attendre et espérer."—DUMAS, "Monte Christo."

PRESENTED

by the

AUTHOR

BY

WALTER HAYLE WALSHE, M.D.

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INTRODUCTION.

FEW physiologists, mixing in general society, can have failed to notice how common it is to hear their psychological brethren (if referred to at all) stigmatised as atheists; and this alike in coteries distinguished for pugnacious religious dogmatism, and in social circles where indifferentism marks the prevailing tone of thought. The acrimony with which the charge is made apparently increases, on the one hand, in the direct ratio of the bigotry or religious fervour, and, on the other, in the inverse ratio of the scientific enlightenment, of different speakers. Furthermore, in certain cliques a shrewd suspicion seems to have arisen that, as any whole includes its parts, physiology in general (nay, even medical science at large,) is chargeable with the delinquencies of its cerebral department, and is hence condemned by these judges as a representative in its entirety of atheistic proclivity and purpose. An illustration in point may be found in the columns of the leading daily journal, wherein the reviewer of the volumes of Bain, Bastian, and Luys on Mind, Body, and Brain "need scarcely say that in all three works the physiological (some would say materialistic) aspects of the subject are strongly insisted upon."* No doubt some would say so, and thence at a bound jump to the conclusion (a foregone one with all who use the word "materialist" in an adverse sense) that all these authors are "atheists." In point of fact, the masses are hardly wiser in their estimate of medical belief than two centuries ago, when lay smartness and ignorance combined had fashioned the libellous apophthegm: "*Ubi tres medici, ibi duo athei.*"†

In striking contrast to this, metaphysical psychologists, though inquiring as boldly from their point of view into

* *The Times*, Jan. 19th, 1883. † Browne: *Religio Medici*.

the genesis of mind, have notoriously, with rarest exceptions, escaped, and continue to escape, this form of social obloquy. Whence comes this diversity of opinion? Are physiologists thus specially held up to odium, because they have shown that a certain definite, if subordinate, part is played by physics and chemistry in the complex act of evolving thought, and because they have thus, at least partially, succeeded in wrenching this branch of philosophy from the nerveless grasp of the pure introspectionist? Has the success of cerebral physiology in the surface-penetration of some of the secrets of thought-production led to its condemnation? Should those secrets, in obedience to theological casuistry, be allowed to linger on in primitive obscurity, as though the earnest use of our divinest gift, intellect, were not the most fitting and the most grateful form of homage to the all-bounteous Giver? If our science toils on in humble but trusting hope to fathom on material lines the mechanism of our mental operations, is its pursuit antagonistic to belief in an Almighty First Cause? * Is there really any fair ground for the inference, that because physiology strives to trace out and interpret the conditions of the connexion between brain-substance and mind—*ergo*, those who labour in its field are of necessity atheists? The inquiries seem to deserve an answer. Let us, then, examine what the teachings of physiology in this direction really signify. Let us try to determine whether (conflicting though they may prove with the postulates of various narrow and sectarian systems of theology) those teachings really antagonise any formal or essential principle of deistic faith; whether, though confessedly open to the charge of

* Blaise Pascal (1623-62), philosopher of no mean grasp and honesty though he was, strove to dissuade his generation from following out the Copernican system to its issues because it maintained the heretical doctrine of the movement of the earth. Pascal would not have merited censure for hesitating to accept the Copernican system had he argued on supposed philosophic grounds (Milton died uncertain which to accept, the doctrine of Ptolemy or Copernicus); his grave error consists in having preferred theological *dogma* to that which he felt to be *truth*. No more remarkable instance can perhaps be adduced to show *how unwilling error is to die*, than the abiding pertinacity of belief in the sun's circum-terrestrial movement. So recent a personage as the great Lord Chancellor Kenyon "is said to have believed to his dying day, that the sun goes round the earth once in every twenty-four hours." Vide the erudite and attractive "Harveian Oration" of Dr. J. W. Ogle, p. 124 1880.

“heresy” (that charge so dear to sacerdotalism)* they do not escape even the suspicion of that treason against Nature, atheism?†

We must prelude the inquiry into the direct work of physiology by a very rapid glance at the notions advanced by metaphysicians and theologians on the nature of mind and generation of thought. Our task throughout this brief Introduction will be merely one of historical and very occasional critical review. We lay no claim to originality of doctrine, but shall merely attempt in simple fashion to popularise knowledge, which alike from its nature and from the manner of its handling, has been essentially limited to the few.

(I.) Now, metaphysicians (they who profess their ability to formulate an *a priori* theory of the ultimate elements of knowledge and nature of things) have held, as a class, that the act of thinking is in all its stages and all its factors a non-material process. And it does not involve any serious error to maintain that the formula under which this doctrine obtained the widest acceptance by philosophy, while it best satisfied the craving of ordinary people for some insight into the nature of their mental operations, was that promulgated by Descartes. And this philosopher’s well-known formula assumed : there exists a spiritual, non-extended indivisible substance, an objective, immortal entity, super-added to and independent of brain, which thinks, feels, and wills—a substance cognisable by self-consciousness alone, and which is in fact the “thinking principle” or proper “soul.” Mind thus becomes absolutely and wholly an extra-cerebral product, and the possible offspring of activity on the part of the “soul” alone. The purely hypothetical character of this doctrine, the feeble, in some sense half-hearted, support given it by its originator, its incompati-

* “Heresy,” aptly styled by Lanfrey : “Cette éternelle protestation de la liberté de l’esprit humain contre les doctrines infallibles.” *Histoire Politique des Papes*, p. 70 : Ed. Charpentier.

† Atheist and atheism are words constantly used in total ignorance of their real meaning. An angry religionist, being asked for his definition of the term atheist, unhesitatingly replied : “I call any man an atheist who does not go to my church, or some one like it.” Strong in sectarian conviction, but weak in classical attainment, my friend evidently had, like one greater than he, “small Latin and less Greek,” and knew as little of etymology as he felt of toleration for any creed but his own. But was he not (setting aside the question of verbal roots) a fair specimen of a large class?

bility with every-day experiences of cerebral disease, and its proving a hopeless puzzle to cultured people, at once endowed with the critical faculty and unbiassed by prejudice, all alike failed to shake its supremacy, and for long years it held sway, not as a makeshift, provisional, mere scholastic formula, but as an established primary truth. And all this though Descartes himself, in the following words, honestly avowed his disbelief in the surety of his own doctrine. "Je confesse" he writes, "que par la seule raison naturelle nous pouvons faire beaucoup de *conjectures* sur l'âme et avoir de flatteuses espérances, *mais non pas aucune assurance*."*

Meanwhile, as mind was thus made a product of the soul, the question at once arose by necessary involution, what in turn was the soul. Now, in all probability, no more startling chapter figures in the history of philosophy than that chronicling the varied efforts made at furnishing a sufficing reply to this query. From the days of Plato to our own, metaphysicians seem to have lost themselves in a maze of conjectures, too often unfortunately no less dogmatic in tone than vague and unsatisfactory in essence. Yet be their failures, while unflinchingly registered, freely forgiven; the obscurity of the problem to be solved, coupled with the imperfection of the instrument selected for its solution, has of necessity, ever proved an unsurmountable obstacle to success, even when that instrument has been handled by the deepest thinkers and most devoted searchers after truth.

Thus, setting aside the *profanum vulgus* of illogical and inaccurate writers, with whom the word is but a word, carrying with it no inkling even of definite signification, we find that with some philosophers the soul is a local, with others a universal, existence; by some limited to man, by others conceded to the lower animals; with certain thinkers an essence, with others a substance, with a third group a

* In explanation of his doubtingness, we must remember Descartes was not merely a metaphysician—he was likewise a physicist of high distinction. The positive tendencies fostered by physical objective study served to counterbalance within certain limits the subjective transcendental activity of his grand intellect. As regards the doctrine itself, Descartes was clearly anticipated by various of the Greek and Roman followers of Plato, who "discovered, that as none of the properties of matter will apply to the operations of the mind, the human soul must consequently be a substance distinct from the body, pure, simple, and spiritual, incapable of dissolution." Gibbon, *Decline and Fall*, vol. ii. p. 169, Ed. Smith.

principle ; with some an immaterial essence without form or extension, with others immaterial, yet possessed of these attributes of matter ; with the majority a simple, with the minority a compound, existence, and with a small fraction of the latter a tripartite body, of which each division is again subdivided into three ; with this sect a something contained in the body, with that a something containing it ; with Aristotle an equivalent of "all the functions, sentient and nutritive, of living bodies up to the highest attributes of intellect," the "rational soul" being especially seated in the heart ;^{*} with the Neo-Platonists an "image or product of reason," producing in turn the corporeal ; with Descartes the "spiritual substance," or "principle" just referred to, provided with a habitat in the pineal gland, a home exchanged by others for the ventricles, the corpora striata, the white substance of the hemispheres, their cortex, the plexus choroides, the dura mater, the heart, and the blood ; with Locke a spiritual essence or a material substance—he could not "fixedly determine" which ; with certain philosophers a something pre-existent from all time, with others evolved *pari passu* with the organism it inhabits ; in the opinion of one group of schoolmen perishing with the associated body, in that of a second wholly immortal, in that of a third mortal in the main, but in one of its parts immortal. Further, philosophers who maintained each soul was formed specially for its own individual

* Prochaska, Nervous System : vide Bastian The Brain as an Organ of Mind, p. 511. On the contrary, according to the shrewder insight of one of the most far-seeing of physiologists, Xavier Bichat, the heart, or its vicinity, holds relationship to the *passions*, the head to *intellectual* phenomena. "L'acteur," he says, "qui ferait une équivoque à cet égard, qui, en parlant de chagrins, rapporterait les gestes à la tête, ou les concentrerait sur le cœur pour annoncer un effort de génie, se couvrirait d'un ridicule, que nous sentirions mieux encore que nous le comprendrions." Vie et Mort, p. 42. Paris, 1813. But Aristotle, plunging yet deeper into the slough of error, taught that the function of the brain was merely to controul the distribution of heat to the heart ! Pondering on blunders so flagrant, we scarcely feel the sentimental horror, that might be expected, in reading Professor Tyndall's severe judgment of the great Greek : "As a physicist Aristotle displayed what we should consider some of the worst attributes of a modern physical investigator—indistinctness of ideas, confusion of mind, and a confident use of language, which led to the delusive notion that he had really mastered his subject, while he had as yet failed to grasp even the elements of it." Vide Ogle, op. cit. p. 88. But in mercy, if not in fairness, the stand-point from which Aristotle worked should not be forgotten.

organism varied in all conceivable ways as to the time and place of union of the two, while the parallel difficulty followed in settling the precise moment of somatic death at which separation of the two must occur.*

The vast majority of these speculators recoiled from the presumptuous task of attempting to define the actual composition of the soul, a few only of the most wildly transcendental satisfying themselves it consisted of "a drop of ether," of a "globule or spark of heat or light," of an "animated vapour," &c.

Not more widely divergent than the metaphysical notions of the nature of soul were the doctrines held as to the manner of intercourse between the soul and the body, the school of Aristotle holding that all objects enter into the soul by influx through the senses; the Cartesians, *per contra*, maintaining that it is the soul that sees and hears, that perception is a primary faculty, not of an organ, but of the soul; while Leibnitz and his followers, denying alike the imagined influx from the body into the soul, and from the soul into the body, maintain the existence of a joint consent and coeval operation of both under the influence of a so-called pre-established harmony.

Passing from the earlier metaphysical speculators to Kant (1724—1804), we find once more in the history of human struggles after truth how much easier it is to destroy than to construct. In the firm analytical grasp of that extraordinary thinker (the "most tremendous disintegrating force of modern times") the past fallacies concerning the nature of the soul had scant chance of mercy—the past shortcomings as little of escaping exposure. Ancient philosophic creeds crumbled to dust before him. But did he raise any edifice of practical significance on their ruins? Did he identify the soul? Where are they, who can fancy that they are the wiser—that they have made a nearer approach to such identification—by accepting his quasi-

* Singularly enough this speculative difficulty has occasionally proved the source of specific practical inconvenience. Thus "Turkish graves are very shallow, sometimes not more than a foot in depth, the reason for this being that most old-fashioned Turks still retain the superstition that the soul does not leave the body until some time after burial, when it is drawn from the grave by the Angel of Death, who would find great difficulty in performing his task if the body was too deeply buried. The consequence of this is that in warm weather a horrible stench arises from the cemeteries."—*God's Acre Beautiful*, by W. Robinson, F.L.S., p. 117.

mystic reveries on the "ego which exists beneath or rather outside consciousness a noumenon,* an indescribable something safely located out of space and time, as such not subject to the mutabilities of these phenomenal spheres and of whose ontologic existence we are made aware by its phenomenal projections or effects in consciousness."† The first clauses of this definition seem pure assumption, soaring aloft beyond the comprehension of ordinary mortals; the latter (granting the premise of the so-called "noumenon") seems a mystified version of a necessary inference. Even Kant himself admits the total concept to be incapable of scientific proof; and of any other form of alleged proof—the so-called transcendental—what is the practical weight? Such "proof," inasmuch as it transcends experience can never advance beyond the unreality of subjective formulation, can never attain the reality appertaining to objective demonstration. Nay, Kant admits more than this: he grants nothing can really be proved by metaphysics concerning the attributes, or even the existence, of the soul; while holding that inasmuch as its reality cannot, on the other hand, be disproved, such reality may, for moral purposes, be assumed. So that this sublimest of the world's thinkers is obliged in ultimate analysis to admit that ordinary common sense may prove as successful in wrestling with the problem as the vastest inborn intellectual potentiality intensified by prolonged culture.

Reaching next the modified or hybrid metaphysical and physiological school of the present day (the former element largely predominant), we find one of its most eminent representatives—Bain—seeming to teach that, whatever it is, the soul has but loose connection with the body. "The body might," he assures us, "have its bodily functions without the soul, and the soul might have its psychical functions

* The "noumenon" is an "*intelligible* object—that is, one which, if it is to be cognised at all, must be so in and through the *understanding* without any *sensuous* medium (Kant's Prolegomena, translated by Bax, p. lxxxvii.) This "Ding an sich," "thing in itself," or "noumenon," is held to be the antithesis of the sensuous phenomenon, but the actual relationship of the two was to Kant himself, has been to his disciples, and will presumably prove to the end of time to his successors, the great stumbling-block in the way of thinking out Kant's whole system.

† Graham, Creed of Science, pp. 153-4. Kant, again, sometimes uses the phrase "the thinking self" as synonymous with soul; and speaks of the doctrine of body and the doctrine of soul—the first dealing with *extended*, and the second with *thinking* Nature."

in some other connection than our present bodies.* But surely, as indeed this psychologist elsewhere himself admits, mind is a function of the body; therefore, it follows implicitly from his propositions that *mind may exist without the soul*, whereas the metaphysical contention denies the possibility of thought without it. Note further, that this thinker, with wise discretion, shrinks from any disclosure of his own idea, either by affirmation or negation, of the nature of the soul, and leaves us in total ignorance of what he desires us to understand, when on his own behalf he employs the word.

We may remark, in passing, that Plato thought the soul could exist without a habitat in the human body. Kant, on the other hand, held it to be beyond our powers to make any affirmation as to the possibility of its separate existence. Dugald Stewart, somewhat in the same vein, held that we "have no direct evidence of the possibility of the thinking and sentient principle exercising its various powers in a separate state from the body." Here, be it observed, the soul, as with Descartes, is a "principle." Is this anything more than a mere *word*? What is the actual *meaning* of the term in this connection? or has it any meaning? What explanation does it furnish of the facts?

The foregoing brief analysis of metaphysical opinion, though obviously and necessarily imperfect, is not one-sided or dishonest, and seems to render the conclusion inevitable that introspective psychology has failed to supply a definite presentment of the nature of soul. Metaphysicians have, in truth, merely postulated its existence, and endowed their creation with a series of attributes, the nexus of no single one of which, with its assumed factor, has ever been made the subject of serious proof; while, in speaking of mind as one manifestation of its activity, they simply ascribe the performance of a positive act (that of thinking), the mechanism of which they in no wise understand, to an agent (the soul), the mere existence of which they fail to substantiate.

If it be urged on behalf of any class of metaphysical schoolmen, who may refuse to accept Kant's modest avowal of failure, that they really have succeeded (because to their own contentment) in fathoming the problems of the genesis of mind and the nature of the soul, and that they are not

* Mind and Body, p. 153.

answerable for the defective intelligence of the outside world, which fails to follow them, the physiologist need not hesitate to concede that they soar in a region of visionary transcendentalism, for which his mental bias and material modes of thought have not fitted him, either as a worker or a critic. He is as ill adapted for revelling in trains of speculative abstraction, whereof the issue, purely subjective, can never reach the reality of objective demonstrativeness, as the metaphysician for peering through lenses many a weary day and night, to verify a single fact, the present obvious value of which may be *nil*, but of which the future story may be written as the starting link of chains of important truths. Between the metaphysical contemplative mind and the scientific observant mind, the antagonism is so profound, that the union of the two qualities in the same individual, even in very different degrees of potentiality, is the rarest of intellectual endowments.

The physiologist of the pure observation school may then admit his deficiency in critical training for the just estimation of metaphysical methods,—and this all the more resignedly in that (as we shall by-and-by fully see) metaphysicians are found occasionally confessing, nay boasting, that they fail to understand each other, while they are likewise accused, apparently on justifiable grounds, of not at all times and seasons thoroughly comprehending each man his own individual work. So the physiologist need not trouble himself about methods but ask for results. And this he has ventured to do, conceiving himself entitled by the worth of the latter to gauge the efficiency of the former. While, then, acknowledging in a spirit of homage savouring of awe, the abstract grandeur of the metaphysical intellect, and the aims of its activity, he has earnestly, but not irreverently, inquired, do you metaphysicians not deceive yourselves? Are you quite sure you do not take words for ideas? Have you, or have you not, perpetually confounded figments of the brain with realities? To what increments of true knowledge—the real, substantial knowledge of things—can you lay claim? Have you of late done much more than clothe old thoughts in new phraseology—phraseology of greater precision, than that it has supplanted, we may fairly concede? Have you not in sober truth been engaged since the dawn of philosophy—*multum agendi, pauxillum agentes*—in a still beginning, never ending, logomachia? Can you point among your fellows to that emphatic unanimity of

creed on fundamental questions, which shall demand, as its right, acceptance from the outside world, before which you pose as the fountain-heads of all ultimate knowledge? Or, have you not, on the very contrary, disagreed absolutely with each other? And, if you doubt each other, may *we* not in turn doubt you all? Is it not true that Kant never mastered, and loudly proclaimed he never could master, the doctrine of Spinoza? * while Hegel affirms that "to be a philosopher one must first be a Spinozist." † Did not the philosopher of Königsberg declare the system of Fichte to be utterly untenable? Does not Schopenhauer in turn repudiate Kant? Were not the leading principles of Schopenhauer's own system contained, and in some measure worked out, in Fichte's "Wissenschaftslehre?" And did not the same Schopenhauer, having failed to perceive the similarity (carping critics have been found malicious enough to more than hint that perhaps he herein judged wisely), stigmatise that work, the alleged germ of his own, as a "farrago of absurdities?" ‡ Has not J. S. Mill declared it to be characteristic of Hamilton that he seldom or never adhered to any philosophic statement he had adopted, that "an almost incredible multitude of inconsistencies show themselves on comparing different passages of his works with each other," and that his whole system of "intuitional" philosophy is a profound mistake? § And is it not equally true that the adherents of the Scotch philosopher seem to have made it plain that his somewhat ruthless English critic never succeeded in understanding him? || Furthermore, has it not been averred by one of his most earnest panegyrists that Kant failed himself to grasp the full import of his own doctrines, that the "new light that was lighted for men" could not illumine his own ideas sufficiently to grasp their total meaning, and anticipate the terms of their ultimate evolution? ¶ Finally, has not Berkeley with equal truth and candour pronounced the condemnation alike of his own work and of all his fellow-craftsmen in the fatal admission, "*We metaphysicians have first raised a dust, and then complain we cannot see!*" **

* Kant's Prolegomena, trans. by Bax, p. xxxv.

† "Works by Spinoza," by Elwes, vol. i., p. 8.

‡ E. B. Bax, *ibid.* p. 101.

§ J. S. Mill, Autobiography, pp. 275-6, 3rd ed., 1874.

|| Maudsley, *Journal of Mental Science*, vol. xi., p. 551.

¶ E. B. Bax, *ibid.*, Preface, p. 3.

** "Human Knowledge," vol. i., p. 74.

To the non-metaphysical mind it would, indeed, appear that the bootless speculations of the pure transcendentalist were calculated, on the one hand to dishearten wayfarers on the road to truth by blocking the route with unintelligible mysticism, and on the other, to postpone the discovery of a share of nature's secrets, by diverting any available mental power into a wrong channel.* How could ought but failure in solving the problems of mental philosophy be expected from a system, even though that system were sustained by surpassing intellectual force, that ignored the instrument, brain, by which the result, mind, is evolved? What success could be expected from an inquiry into the mechanism of respiration, from which all consideration of the structure, dynamics, and chemistry of the breathing-organs was purposely excluded? Conceive a man proceeding to investigate the respiratory process, who had never seen a lung! Should we consider him perfectly sane? How ineffably curious, then, if not ludicrous, does it seem to find Bain announcing, with, in some sort, the tone of a man who has stumbled on a happy discovery, that it would be worth the while of metaphysicians to learn something of nerves—we presume, impliedly, something of brain also. Still, this niggard dole of acknowledgment places the donor, at all events, in advance of J. S. Mill, who, to the very close of his career, contemptuously and obtrusively rejected cerebral physiology as a guide, of even the most subordinate value, in the study of mind. Why, the solitary discovery of the connection of aphasia with a special spot in a special gyrus of a special hemisphere of the brain, taken in conjunction with the corollaries logically deducible from that connexion, seems a far weightier offering towards the elucidation of the actual mechanism of mind—of the conditions under which nature works—than all the transcendental guesswork furnished by the toil of metaphysicians from Plato to Schopenhauer.

Nevertheless, the conspicuous failure of purely introspective philosophy, unaided by objective investigation, to establish its special psychic doctrines, does not, on the other hand, disprove the possible independent existence of

* So far from its being desirable that that rare form of gift or "acquired mental dexterity," as the introspective faculty is affirmed to be by Sir William Hamilton, should be vouchsafed to cultured mankind at large, the endowment may without probable ultimate loss to real knowledge be left in the grasp of the limited class for which its possession is claimed.

soul as one of the factors of mind. Such existence may be, or may not be, a reality, for anything that metaphysics show or do not show. The failure of transcendentalism, admitted even by Kant, simply proves that in wisdom which is not of pure and unaided metaphysics lies such lingering hope, as an enthusiast may cling to, of substantiating the reality and the nature of the soul's existence and practical activity. Nor does the failure signify (whatever may be its import as to the efficiency of transcendentalism) that introspection must not be allowed to play a large, though far from the solitary, part in the attempt to elucidate the nature of mental operations. To reject the help of introspection in analysing the phenomena of mind would be as illogical, nay fatuous, on the part of the physiologist as the negation of the utility of all objective aid by the bulk of metaphysicians. But in point of fact such rejection is a sheer impossibility, for we cannot cogitate without examining consciousness, and when we do this we introspect. Besides, there are facts of mental operation, and laws regulating these facts, which lie without the pale of physiology as an objective factor, facts and laws which can only be even guessed at by the analysis of self-consciousness. The results of such analysis plainly cannot be claimed by a department of inquiry which deals with phenomena physically demonstrable alone; be those results sound or unsound, conclusive or tentative, final or provisional, such as they are, they are the property of introspective psychology alone. Furthermore, there is a large class of psychological concepts framed on a combination of both kinds of evidence, subjective and objective.

(II.) Of theological speculation concerning the nature of mind and soul it may, for more than one reason, be perhaps advisable to say but little. And theology, in truth, regarded as a branch of general philosophy, seems to possess no special or distinctive standpoint of its own in such an inquiry. Its teachings must be a compound of fragments of ecclesiastical dogma and the current metaphysics of the day, all objective scientific data being systematically rejected by theologians as either insignificant or heretical. No special or distinctive standpoint, we say; for neither theosophist nor serious theologian of any school professes, or has professed, as far as is commonly known, that a direct revelation of the *nature* (as distinguished from the *existence*) of the soul has ever been vouchsafed to man. And that,

wanting this form of guidance, mere theological erudition may lead astray even an earnest Anglican divine in inextricable mazes of untenable paradox, the celebrated disquisition of Bishop Warburton* concerning the immortality of the soul will, it has been conceded even by ecclesiastics, for ever remain an unquestionable proof.

Still, the claim of theological speculation to a hearing in this matter cannot be gainsaid. And it must be humbly admitted that a layman is very imperfectly qualified to judge with impartiality concerning the logical justness of ecclesiastical teaching, inasmuch as *ex professo* Churchmen frequently start from premises more or less completely at variance with those accepted by the mass of the outside world. With extreme diffidence, then, the following outline of ecclesiastical opinion is set forth.

The early fathers of the Christian Church all, without exception, believed in the existence of soul as something superadded to body—a certain section adopting the Platonic doctrine of pre-existence. Many of their number held that the soul must be a *corporeal* substance, not on any supposed subjective or objective evidence, but because to maintain the contrary would clash with the doctrine of future rewards and punishments, inasmuch as “only matter could be susceptible of physical pain and pleasure.”† Other classes of Churchmen, on the contrary, believe the soul to be “purely *spiritual*, but liable to be disturbed by its *material tendencies*”; while another sect maintains that the soul is “spiritual in itself, but *enclosed in matter* because of sin.”

For Tertullian, apparently the most thoroughly materialistic of his compeers, “What is not body is nothing”; “the soul is corporeal, and has the human form, the same as its body,” while its component material is “delicate, clear, and ethereal.” These latter attributes are in all probability ascribed to the soul in order to evade the difficulty of imagining a corporeal substance intangible and invisible; though there were not wanting in Tertullian’s time persons who stoutly maintained that they had actually *seen* the soul

* The Divine Legation of Moses. Five volumes. London, 1766. That numerous *lay* writers should have foundered in the attempt to explain the silence of Moses concerning the immortality of the soul is less to be wondered at.

† Bain, *op. cit.*, p. 158. See the whole chapter for a lucid and full survey of the history of theological opinion on the subject: much of it, as is signified by the writer, originally furnished by the erudite Ueberweg.

in its flight from the body at the moment of somatic death.

In the opinion of Origen, who apparently acted the part of a transition-thinker between the early materialist and the later spiritualist fathers, the nature of the soul was confessedly a profound puzzle ; but he seems in the end to satisfy his doubts by assigning it a middle place between ordinary matter and spiritual essence. One theologian of about this period knows the nature of the soul so thoroughly that he has actually ascertained it to be "composed of air"; while another ventures no further than to divine that its component matter differs from the matter of ordinary bodies.

According to Augustine, the soul is non-extended, and therefore not material, and, as having existence and not being material, is spirit; is wholly present in the entire mass, and also in every particle of the body, yet acts on this body, not directly, but *through some corporeal substance* [materialistic ideas therefore even yet not wholly discarded] intervening between itself and the actual body, the nature of which intervening substance students of his works are, as might be anticipated, unfortunately left in the main to work out for themselves, the suggestion (*ignotum per ignotius*) by its inventor, that it consists of "light and air," being hardly calculated to satisfy even the most simple of mortals.

Bain considers that Gregory of Nyssa, in maintaining the thinking power does not belong to matter, otherwise matter would generally exhibit it, made "a happy hit."* Why happy? Does it not rather seem the learned father made an unfortunate slip? As well might he have taught that the bile-secreting power does not belong to matter, or matter generally would form bile.

Mamertus, a French priest of the fifth century, one of the pioneers of the non-material school, had odd notions of his own : that the soul, unlimited by space, not movable with the body, was possessed of quality but not of quantity, contained the body, &c.

For Aquinas, one of the intellectual lights of the thirteenth century, the soul, not body, but the actuality of body, "pure form without matter," is the instrument of nutritive, sentient, volitional, and intellectual action, and is *unconnected with the body*, in which latter character the human soul differs from that of the lower animals.

* Op. cit. p. 165.

In the enigmatical phrascology of Calvin the soul becomes a "creation out of nothing, not an emanation ; it is essence without motion, not motion without essence." According to the unfortunate Servetus (1509-1553), at once metaphysician, physiologist, and (alas ! to his own sorrow) earnest theologian, "it was truly into the *heart* of Adam that God breathed the breath of life or the soul," this as yet inchoate soul becoming the "rational soul," when the blood carrying it reached the *base of the brain*, whence it is borne "to the capillaries of the choroid plexus, which contain, or are the seat of, the soul itself."* With Swedenborg the "soul was the real man, because the inmost man."†

So that, while acknowledging with reverent gratitude the efforts of these pious men, the lay world cannot blind itself to the fact that the spiritualised, ascetic mode of life has helped its votaries no better than the comparatively sensuous ways of ordinary philosophers in reaching an acceptable solution of the solemn problem of the nature of soul, and by inference in eliminating any of the difficulties met with in working out the mechanism of mind. By whatever manner of man handled—by saint and sinner alike—pure introspection proves a practical failure.

And we can now tender an explanation of the apparent paradox stated at the commencement of these remarks. We can understand why metaphysicians, with very few exceptions, and theologians have been, and are, allowed to speculate with impunity on the nature of mind and soul. The former have discovered, and can probably in the future discover, nothing,—they have as a class offended no religious sect by successfully penetrating mysteries, which its chiefs have determined should either be left in their primeval obscurity or solely interpreted after the dogmatic fashion authorised by themselves.‡ The latter

* Servetus and Calvin, pp. 206-209, by R. Willis, M.D., one of the most deeply engrossing books ever produced on that subject of inexhaustible and undying interest, the early history of the Reformation. In localising the soul, Servetus, as stated above, made a starting-point of the heart, the organ regarded by Hippocrates and Aristotle as its sole and abiding resting-place. With Servetus the soul erratically moved on, with his Greek predecessors nestled for once and all.

† The True Christian Religion, No. 697, Lond, 1858.

‡ The Romish hierarchy has always been pitiless to the slightest aberration from the narrow path in which its own creed moves. Kant's works, branded as heterodox, figure side by side in the Papal Index

have simply played into and strengthened the hands of sacerdotalism by imagining a soul whose nature is in strict harmony with the special tenets of their own special form of religious faith.

(III.) However, it is not to be supposed that spiritualism, whether of the purely metaphysical or mixed theological type, held undivided sway from the earliest investigation of mental phenomena till the advent of the existing physiological school. Omitting the atomism of Democritus and the allied speculations of Epicurus, Lucretius, and other early Greek and Roman philosophers, we find that subsequently to the revival of learning views more or less broadly materialistic every now and then contested the field with the exclusively psychic theory of mind. Nor must it be forgotten that the early fathers of the Church, as we have seen, taught materialistic doctrine, not fortuitously, but with well-considered purpose, their materialism being as downright as any of the present day, differing therefrom only in this sense, that while the original form was imaginary, the existing type is professedly demonstrable. And spiritualistic dogma had a very lukewarm supporter at a much later date in Locke. Locke, in point of fact, steered widely of a total rejection of materialistic views; he, in truth, suggested, if he did not downright maintain, that the faculty of thinking might quite as easily be directly affiliated to matter as to a given non-material entity (soul), which entity should in turn be itself affiliated to matter.

This mode of escaping a grave difficulty, however, was tentative, timid, a kind of craven *tertium quid*. In adopting it Locke rather admits a leaning towards than frankly adopts the creed, that cerebral tissue plays any actual part in the genesis of thought. The English philosopher, indeed, seems to have been somewhat wavering and unstable in his teachings, whatever the firmness of his convictions may have been, on this fundamental question of mental philosophy. Thus we find him saying, "Our idea of our soul, as an *immaterial* spirit, is of a *substance* that thinks and has a power of exciting motion in body by will and thought." Elsewhere he maintains it is "no harder to conceive how thinking should exist without matter, than how matter

with the most brazen handbooks of vulgar atheism. Besides, it is matter of history that, when at the height of his powers and of his fame, the German philosopher was forbidden by an Order in Council, obtained through priestly influence, from expounding his views either by lecturing or writing,—from illuminating mankind by voice or pen.

should think." Further on he admits God might, if He pleased, "superadd to matter a faculty of thinking." Yet again, he holds that in man (as distinguished from the lower animals) it is in the highest degree *probable*, that the "thinking substance" is immaterial.* Did the dread of priestly denunciation or of social ostracism in an age of bigotry prevent him from freely outspeaking his real convictions? or was he in very fact as unsettled as he seems? It is well worthy of note, as matter of literary history, that Locke spoke out in the utterances he has actually ventured upon, more boldly than Voltaire, who simply affirmed the power of the Omnipotent to make matter think if He so willed it; far from an irreverence even, nevertheless a theological heresy for which the recluse of Ferney endured endless persecution. His exact words were:—"Dire que Dieu *ne peut* rendre la matière pensante, c'est dire la chose la plus insolemment absurde, que jamais on ait osé proférer dans les écoles privilégiées de la démente."†

Hume, in turn, metaphysician though he was, decries much of metaphysics as non-scientific and the outcome of vanity and superstition, and would attach but little value to the bulk of its conclusions. And herein appears one instance, among many, illustrating the Scotch philosopher's remarkable gift of anticipating the verdicts of posterity. The declining influence of metaphysics as a guide to the highest attainable truth, had indeed become a patent fact long before Comte and the Positivists made their attempt at wholly ostracising transcendentalism from the realms of knowledge, as "idle and mischievous." Despite the critical groundwork so acutely laid by Kant,‡ the more finished

* Fowler, Life of Locke, Morley Series, p. 139. 1880.

† Dictionnaire Philosophique, art. Ame. Perhaps no more striking human testimony to the reality of the Godhead is to be found in literature than in the following lines of the man whom it has been the fashion, with either egregious ignorance or dishonesty, to denounce as an atheist:—

"Ce système sublime [d'un Dieu] à l'homme est nécessaire;
C'est le sacré lien de la société,
Le premier fondement de la sainte équité
Le frein du scélérat, l'espérance du juste.
Si les cieux dépouillés de leur empreinte auguste
Pouvaient cesser jamais de le manifester,
Si Dieu n'existait pas, il faudrait l'inventer."

‡ It must be remembered that Kant's *opus maximum*, the Critique of Pure Reason, professed rather to unfold the method by which a system of philosophy may be reached, than to expound one already achieved.

structures (as they are held to be) raised by some of his disciples and followers, and the somewhat novel departure of Schopenhauer, Hartmann, and others, the death-knell of pure metaphysical speculation has in some sort been rung by advancing science. Whether the effort of Lewes* to "transform metaphysics by reduction to the method of science" is destined, as he fondly imagined, to reawaken life in effete transcendentalism, and furnish solutions to all metaphysical problems that can "rationally be stated," time alone can show. Meanwhile, by proposing to "discard all inquiries which transcend the ascertained or ascertainable data of experience," he seems to me to alter the scope and nature of metaphysical inquiry *ab imo*. The verdict of the future in spite of this scheme of rehabilitation will probably continue to be: "Metaphysical questions are either insoluble, and should not be raised, or unreal and fantastical, and need not be.†

Thinking men of high and varied intellectual endowment, but devoid of metaphysical aptitude, have almost invariably judged metaphysics with more or less exaggerated disdain. Buckle, for example, who is probably entitled to take rank as the most far-seeing and deepest reasoner who has yet appeared in the sphere of history, holds that "the metaphysical method is one by which no discovery has ever yet been made in any branch of knowledge" (*Civilization in England*, vol. i., p. 144, 1857). For abstract and metaphysical speculation, Walter Savage Landor had no sympathy, scarcely even toleration. "Speculations on any things that lie beyond the cognizance of the understanding are only pleasant dreams, leaving the mind to the lassitude of disappointment. They are easier than geometry and dialectics" (*Life*, by Colvin, p. 86). Again, Macaulay, the most eloquent and fascinating narrator of historical story the world has seen—the persuasive orator, the brilliant essayist, endowed with powers of memory trenching on the marvellous, conversationally the man richest in language, liveliest in fancy, and readiest in argument, of his time,—had the astounding hardihood to proclaim:—"Philosophic speculations are, in a peculiar manner, the delight of intelligent children and half-civilized men" (*Life of*, by Morrison, p. 49). Shades of Plato, Locke, Hume, Spinoza, and Kant, hear ye this! But Macaulay seems to have been

* *Problems of Life and Mind*, 1874.

† *Graham, Creed of Science*, p. 220.

totally deficient in intellectual depth of any kind—a scoffer at the inductive method, and never himself rising to the discussion, or even the enunciation, of an abstract doctrine or general principle, in his volumes of historical narrative. But *pace* these and many other similar adverse judgments recorded by men, themselves of no mean mark in their several capacities, the special quality of certain varieties of lofty intellect will always find its fittest pabulum in speculation of the *a priori* transcendental kind, and this may be fostered, were it only as a variety of intellectual gymnastics. At all events, that as long as mind lasts there will be metaphysics is certain, though their influence on human thought and on philosophy in general must, *ex natura rerum*, grow less and less as positive knowledge advances. And this, despite the knight-errantry of Lewes, and the somewhat arrogant boast of Schopenhauer, that he had “lifted the veil of truth higher than any previous mortal” by the use of the instrument, whereof, a stubborn and unbelieving generation maintains, the funeral requiem may be sung.

But to return to Hume. Divesting himself of the trammels of metaphysical thought, this pioneer in positive philosophy, with a perspicuity and cogency of argument astonishing in view of the infant condition of cerebral physiology in his day, concludes that varying states of consciousness, thought, and perception depend on molecular motions of the brain; while he regards the name “soul” as the synonym of the “sum of phenomena which constitute our mental existence,” and holds there is nothing beyond these phenomena,—the idea of their appertaining to an intervening substratum of “substance” (or soul) “being a mere fiction of the imagination.”*

Priestley, specially qualified by his physico-chemical studies as, so to speak, *an advocate of the rights of matter*, argues from its unquestionable activity of other kinds (attraction, repulsion, and the whole ground of molecular dynamics), that, especially as sensation and perception are unknown except as attributes of organised substance, matter must be held capable of effecting the process, thought.

Cabanis (1757—1808), throwing the material doctrine into the most uncompromising form, maintained that the brain-substance, assuming a state of activity under the influence

* Huxley, *Life of Hume*, p. 171.

of impressions received from without, elaborated through this activity the product, thought—just as a gland under nerve-stimulation pours forth its special fluid product.* Thought became in his hands simply a brain-secretion, no intermediate help on the part of a soul, or other *tertium quid*, either dependent or independent, being appealed to. The materialist gauntlet could not have been more aggressively thrown down. That a doctrine clashing so sharply with theological and Cartesian spiritual teaching should startle the lay, and be received with a shriek of horror by the sacerdotal world was to be expected. It did more. It proved profoundly distasteful æsthetically. That man's noblest inheritance, the power of thinking (a power supposed by the mass of mankind to be their own solely, to the exclusion of all other animals), should be in any fashion assimilable to the ignoble functions of producing bile, gastric juice, and saliva, revolted his *pride of species*. The insulting dogma was rejected ignominiously, but apparently rather in obedience to the impulses of emotion and sentiment than as the result of victorious argumentation. The work of the scientist of to-day is calmly to inquire what, if anything, of truth, what of fallacy, subsequent investigation may have shown to underlie this formula of thought-secretion.†

In form less repellent, and with philosophy more cautious, Lawrence, at a somewhat later period, wrote the memorable words, "Who knows the capabilities of matter so perfectly as to be able to say that it can see, hear, smell, taste, and feel, but cannot possibly reflect, imagine, judge?"‡

Our brief, historical survey would scarcely be complete, even in its incompleteness, if the creed of agnosticism were wholly forgotten. This form of negative faith finds an unflinching advocate in Huxley, who, while proclaiming in no doubting tone our actual ignorance of the nature of

* *Rapports du Physique et du Morale*, p. 122. Ed. Cérise. Paris, 1883.

† Emotionalism plays a larger part in establishing philosophic and religious creed than is commonly dreamed of. Robert Hall "buried his materialism in *his father's grave*" (Bain, *op. cit.*, p. 189); Figuier's convictions underwent an absolute reversal through the *death of a beloved son* (*Le Lendemain de la Mort*, 4ème ed., préface. Paris, 1872). Of the great unknown how many are similarly influenced, who shall tell?

‡ *Lectures on Man*, 1819.

mind, offers but feeble encouragement to any enthusiast disposed to enter on the too probably thankless task of its investigation. "We know nothing more of the mind than that it is a series of perceptions. Whether there is something in the mind that lies beyond the reach of observation, or whether perceptions themselves are the products of something which can be observed, and which is not mind, are questions which can in no wise be settled by direct observation."* Better, however, this straightforward confession of ignorance, than the pseudo-mathematical demonstration of Spinoza (1634-77) *proving* (Corollary to Prop. xi. of the Ethics) that the "human mind is part of the infinite intellect of God."† Two centuries required to reach real absolute ignorance *vice* imaginary perfect knowledge!

The Positivists, again, eschewing both spiritualism and materialism in this field, decline even to investigate the mystery of mind, as lying beyond the pale of possible comprehension, while they scout with withering scorn the assumption of the metaphysicians that they have settled the problem of mind by calling it spirit—a word which is for Comte and his followers *vox et præterea nihil*.

(IV.) Such being, in the main, the acquisitions in the past, what is the reasonable prospect in the future? Are the nature and genesis of mind, and the nature of the soul, problems which it is likely will ever be solved? The negative appears, unfortunately, far more probable than the affirmative. Both these arcana of to-day seem only too likely to maintain their places in the category of the forever unknowable. The impotence of pure metaphysics is beyond dispute. A thousand years of introspective dissection of self-consciousness, and of the play with bewildering farragos of words more or less equivocal, and of phrases more or less conventional, have ignominiously failed to reveal the essential nature of one or the other. The resources of theology have, in turn, merely begotten a series of quasi-metaphysical hypotheses, tempered—nay, distorted in such fashion by dogma, that, however satisfactory they may seem to the sacerdotal mind, they prove, when weighed in the balance of lay reason, contradictory, mutually destructive, and untenable. And, next, Positivism, the latest outcome of critical philosophy, rejects even the considera-

* Life of Hume, p. 63.

† Works by Elwes, vol. ii. p. 91.

tion of the problems altogether. So that, on the one hand, if *contrary to probabilities*, the function of thinking is ever to be followed step by step from the determination of the mode of action of the exciting cause to the analysis of the evolved product; if we are ever to possess, in its entirety, the natural history of an idea, the totality of the dynamic and statical phenomena of its parentage, birth, existence, substance, correlatives, decline, cessation, and *reliquiæ*; if we are ever to reach a satisfactory definition of the word "mind,"—these successful issues are to be looked for essentially in the data of biology. And, on the other hand (inasmuch as direct revelation has neither come nor has been promised concerning the *nature* of the soul or the *method* of its acts), if that nature and that method are ever destined to be made matter of demonstration, then out of these same data alone can such identification be expected to spring. And this will hold true whether the soul be really a something superadded to and intervening between brain and thought, or merely an ideal abstract equivalent of the sum total of concrete manifestations of cerebral activity. Biology seems to be, in truth, *the working instrument of possible indirect revelation granted to man in respect of this special enigma by the Almighty First Cause*. Metaphysical inquiry cannot be expected to achieve any such results, for it has so far failed to make even a substantial commencement, and it is *hopelessly stationary*. Biology may conceivably make vast advances towards accomplishing the task, for it has already done much, and it is *eminently progressive*. But what precise task? We may (somewhat to anticipate our final conclusions) frankly concede that biological science, even if the ranks of its votaries be now and then swelled by the accession of men endowed with genius of the exalted originality of Darwin, cannot be *positively assumed* to be capable of revealing more than material phenomena, their nature, localisation, effects, and accidents, their mode of association and sequence, and their governing laws,—the intimacy and precision of knowledge of these furnishing the measures of the activity of special research, the advance of time, and the amount of storage of inherited data. The science will continue to demonstrate how vast is the part played by conditions and agencies, material in essence, in the evolution of thought; and will, in all probability, supply evidence that that part is closer, more comprehensive, and

more varied, than has yet been even approximately proved. It will gradually conduct us to the possible limits of objectivity,—show us the boundary line where demonstration ceases to be attainable, and where introspective guesswork must take its place. But scarcely can we in our most ardent moments of scientific enthusiasm hope through physiology to fathom the mystery to its lowest depth—to grasp the true nature of the force that sets to work the dynamic and statical activities evolving mental phenomena out of brain—to identify the potentiality that vivifies cerebral pulp into an emotional, volitional, and intellectual agent, or seize the link that unites thinking substance and thought. No! even if *argumenti gratiâ* the hypothesis of Hooke, that ideas themselves are actually material substances, be accepted, there will remain a something behind, giving to the brain-matter power to throw off that kind of substance, the nature of which something will elude our grasp. But are we more enlightened concerning the intimate nature of the special potentiality attached to any structure in the body? What do we really know of the force that evolves motion from muscle? Will any conceivable amount of success in working out the histology and chemistry of liver-tissue give us the veriest glimmering of a notion why hepatic cells should produce bile and not saliva? And just as in regard of the wider phenomena of life, of which mental activity is but a part, though a large part, so science will in all surety continue long, long (though possibly not for ever) forced to accept agnosticism as the only attainable creed in the sphere of ideation—the *ultima Thule* of loftiest physiology.
